Procedures and Guidelines

DIRECTIVE NO.	820-PG-7120.0.1A	**APPROVED BY Signature:**	*Original Signed by*
EFFECTIVE DATE:	April 28, 2014	**NAME:**	Debora A. Fairbrother
EXPIRATION DATE:	April 28, 2020	**TITLE:**	Chief, Balloon Program Office

COMPLIANCE IS MANDATORY

Responsible Office: 820/Balloon Program Office

Title: Management of the Balloon Program

PREFACE

P.1 PURPOSE

This directive identifies the actions and responsibilities of the Goddard Space Flight Center (GSFC), Wallops Flight Facility (WFF), Suborbital and Special Orbital Projects Directorate (SSOPD), Balloon Program Office (Code 820) for the implementation of the NASA Science Mission Directorate's (SMD) Balloon Project, Suborbital Research Program Plan.

P.2 APPLICABILITY

This PG is applicable to the SSOPD, Balloon Program Office (BPO), and the NASA Scientific Balloon Program's prime support contractor. This procedure covers management controls for planning, developing, authorizing, coordinating, tasking, and implementing the annual NASA Scientific Balloon Program.

P.3 AUTHORITY

a. NPR 7120.8, NASA Research and Technology Program and Project Management Requirements

P.4 REFERENCES

a. NPR 8621.1, NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Record Keeping
b. NPR 7120.8, NASA Research and Technology Program and Project Management Requirements
c. GPR 8621.4, GSFC Mishap Preparedness and Contingency
d. GPR 8700.1, Design Planning and Interface Management
e. GPR 8700.2, Design Development
f. GPR 8700.3, Design Validation
g. 800-PG-1060.2.1, Suborbital and Special Orbital Projects Directorate Reviews
h. 800-PG-7120.1.1, Project Plans
i. 800-PG-8621.0.1, Suborbital Anomaly Investigation and Reporting
j. 820-PG-1410.2.1, BPO Configuration Management (CM) Procedure
k. 820-PG-8621.1.1, Investigation and Reporting Procedures for Balloon Program Mishaps, Failures, and Anomalies

l. Suborbital Research Program Plan
m. Contract NAS5-03003 for the Implementation of NASA's Balloon Flight Program Operation and Maintenance of the National Scientific Balloon Facilities† (NSBF) in Palestine, Texas; and Fort Sumner, New Mexico and Engineering Support for NASA's Balloon Program
n. Columbia Scientific Balloon Facility† Safety and Health Plan, dated January 9, 2003
o. RSM 2002, Range Safety Manual for GSFC/WFF

† Columbia Scientific Balloon Facility (CSBF), formerly National Scientific Balloon Facility (NSBF), is notated as such due to referenced documentation filed previous to facility title modification.

P.5 CANCELLATION

820-PG-7120.0.1, Management of the Balloon Program

P.6 SAFETY

N/A

P.7 TRAINING

N/A

P.8 RECORDS

Record Title	Record Custodian	Retention
PPBE Submission Package	801 Records Custodian	NRRS 9/14.2 Destroy after 2 years
Reimbursable Project Package	801 Records Custodian	NRRS 8/103 Temporary. Destroy/delete between 5 and 30 years after program/project termination.
Flight Project Package (for defined Fiscal year)	820 Records Custodian	NRRS 8/103
Flight Summary Package (for each separate balloon flight operation)	Contractor at CSBF	NRRS 8/103

** NRRS – NASA Records Retention Schedule (NPR 1441.1)*

Each record package will contain the following:
a. Program Planning Budget and Execution (PPBE) Submission Package
   1. Science Mission Directorate (SMD) PPBE guidance correspondence

2. GSFC PPBE guidance correspondence
3. Balloon Program Office PPBE submission
4. SSOPD PPBE Submission (copy)
5. SMD approval and spending authority

b. Reimbursable Project Package
1. Request for Services/Support
2. Flight requirements (data package)
3. Cost estimates
4. Customer review/approval correspondence
5. Letters of Agreement

c. Flight Project Package (as a minimum to contain):
1. Annual CSBF Flight Candidate Program
2. Request(s) for Support from other GSFC organizations (as required)
3. NASA SMD/Research Program Management Division (RPMD) Flight Candidate Program Approval
4. CSBF Balloon Flight Support Application (copy)
5. Mission Project Plan and Approved Revisions
6. WFF Safety Documentation (i.e., Balloon Risk Analysis Flight Safety Plan, Ground Safety Plan)
7. Hazardous Procedures (as required)
8. Project Initiation Conference (PIC) Presentations (remote Long Duration Balloon (LDB) and as needed)
9. NASA/National Science Foundation (NSF) Balloon Implementation and Management Plan (Antarctica)
10. Mission Readiness Review (major campaigns and as needed)
11. Campaign Situation Reports (SITREPS)
12. International clearance for overflight/recovery (remote LDB as required)
13. Mishap/Failure/Anomaly Investigation Record(s) and Report(s) (as required)

d. Flight Summary Package (maintained by CSBF as a minimum to contain):
1. CSBF Balloon Flight Support Application
2. Flight Support Requirements
3. *WFF Safety Documentation (as required)
4. Ground Operations, Flight Operations, and Payload Safety Plan(s) (as required)
5. Minimum Success Criteria and Updates (as required)
6. Off-the-Pad Report
7. Flight Data Summary
8. Post-Flight Minimum Success Assessment
9. Mishap/Failure/Anomaly Investigation Record(s) and Report(s) (as required)
10. Mishap/Failure/Anomaly Investigation Action Item Assignment(s) and Close-out(s) (as required)
11. Predicted and Actual Descent Vectors and Impact Locations

12. Electrical Systems Flight Support Records and Verification Records
13. Mechanical Systems Flight Support Records and Verification Records

*The Balloon Program Office shall initiate requests to the WFF Safety Office for the specific/applicable Balloon Risk Analysis, Flight Safety Plan, Ground Safety Plan, and other safety documentation for flight(s) and/or campaign(s).

These records shall be maintained by the WFF Safety Office and implemented by the BPO and CSBF.

P.9 MEASUREMENT/VERIFICATION

N/A

PROCEDURES

In this document, a requirement is identified by "shall," a good practice by "should," permission by "may" or "can," expectation by "will" and descriptive material by "is."

1.0 MANAGEMENT OF THE NASA BALLOON PROGRAM OFFICE

The SMD is responsible for the overall administration of the NASA Scientific Balloon Program. GSFC SSOPD is responsible for programmatic implementation and management of the program through the Balloon Program Office (BPO). The BPO provides support for scientific balloon investigations sponsored by NASA Headquarters, SMD. In addition, other NASA Directorates, e.g. Exploration Systems, Aeronautics Research; other U. S. Government Agencies, e.g., National Science Foundation, Department of Defense; and other entities, e.g., commercial users, and/or foreign users, may request support of the NASA Scientific Balloon Program.

The BPO shall provide mission support through long range planning, development of program operating budgets and schedules, management and technical direction of a performance based mission contract, and management and technical direction of balloon engineering and development projects.

1.1 Program Planning Budget and Execution (PPBE) - The BPO's annual planning cycles are based on developing and updating a continuing series of annual PPBEs, annual budget determinations, and operational flight schedules. The Administrator initiates the overall long term planning guidance with the issuance of NASA's PPBE. Upon receipt of the NASA overall PPBE guidance, each Headquarters element responsible for strategic planning and management develops the PPBE guidance specific to its area of responsibility for action by the respective Centers. In the case of the Scientific Balloon Program, the responsible Headquarters element is SMD.

1.2 Development of PPBE Requirements – Long-term guidelines are received from SMD, and the Contractor solicits feedback from the balloon community on future requirements and direction. These inputs are submitted to the BPO and shall be evaluated to establish an annual NASA SMD PPBE. The

PPBE reflects the annual support for the CSBF performance based mission contract, the requirements for the on-going flight missions, and the engineering requirements. The BPO's annual support requirements become the Balloon Program's input to the PPBE process performed by the Center in response to the Headquarters annual budget call.

These inputs shall be forwarded to GSFC SSOPD, Resources Management Office (Code 801) for integration, and further forwarding to the Center for combination into the Center's PPBE submission.

Other customers, including other NASA Directorates, U.S. Government Agencies, and reimbursable users, shall contact the SSOPD to initiate request for services.

The SSOPD shall develop a cost estimate for services and forward this to the requesting Agency/Directorate/User. If the mission support involves activities with or in a foreign country an Agreement with that country is required prior to completing the cost estimate.

The agreement process shall begin with the development of a data package that spells out specific detailed requirements. This package is submitted to NASA Headquarters Office of International and Interagency Relations for development of the necessary Memorandum of Agreement/Understanding (MOA/MOU).

1.3 PPBE Approval and Implementation - The PPBE submission is reviewed and approved by NASA Headquarters. Approval is provided to the BPO through Code 801, Resources Management Office in the form of spending authority from SMD. The spending authority constitutes authority for the BPO to accomplish the approved Scientific Balloon Program.

On receipt of program approval, annual Program Plans shall be finalized with contractors and other project managers. Authorization for the specific flight missions contained in the Balloon Flight Candidate Program is provided by NASA Headquarters.

The annual contractor provided engineering plan for development projects shall be implemented in accordance with the approvals provided.

2.0 MANAGEMENT OF THE NASA BALLOON PROGRAM OPERATIONS

The BPO shall provide technical and management support for scientific balloon missions sponsored by the NASA SMD through programmatic management and operational oversight of the NASA Balloon Flight Operations Contract (Contract NAS5-03003 for the Implementation of NASA's Balloon Flight Program Operation and Maintenance of the National Scientific Balloon Facilities in Palestine, Texas; and Fort Sumner, New Mexico and Engineering Support for NASA's Balloon Program).

Responsibilities of the BPO shall include long-range program planning, development of program operations budgets, establishment of operational guidelines and requirements, management of the CSBF prime support contract, technical direction and review of contractor performance, and assessment of the quality of services provided in support of the scientific balloon missions.

The BPO shall designate an on-site Mission Manager to oversee conduct of launch operations and management of the Program's safety implementation. The prime support contractor operates and manages the CSBF and provides balloon flight operational support including mission planning, balloons and other mission expendables, launch, tracking, and recovery. The Contractor also provides support in development of the annual NASA Flight Candidate Program, ongoing engineering support of flight operations, and quality assurance to CSBF operations. Mobile range support and technical oversight at the launch or downrange site is also provided when required.

2.1 Development of the Annual Balloon Flight Candidate Program - The prime support contractor is tasked under the Contract's Statement of Work (SOW) for development of a Balloon Flight Candidate Program. The contractor initiates this process by distributing a Flight Information Package to the scientific community. The package contains a Balloon Flight Support Application that is completed and returned to the contractor by the individual scientists. The Contractor uses the return applications to generate the Flight Candidate Program. In addition to copies of the applications, the Balloon Flight Candidate Program shall contain detailed cost estimates, an assessment of flight and engineering support requirements, schedule considerations, and preflight minimum success criteria.

A balloon inventory replenishment plan shall also be furnished. The contractor submits the Balloon Flight Candidate Program to the BPO. The BPO reviews the contractor submission, folds in any other programmatic requirements, and submits the package to NASA Headquarters for approval.

2.2 Approval of the Annual Balloon Flight Candidate Program - The Research Program Management Division (RPMD), of the SMD shall review the Balloon Flight Candidate Program, and issue an approval of all or specific portions of the plan. Earth Science Applications, also of SMD, provide approval of their science groups separately.

Upon receipt of approval from NASA Headquarters, the BPO shall issue the contractor the approved Annual Balloon Flight Candidate Program. This approval empowers the contractor to support the flight missions in accordance with the prime support contract provisions.

Revisions to this approved plan shall be issued by the BPO as required. Concurrence is obtained from the applicable science office at NASA Headquarters for changes in requirements that may have a significant effect on the outcome of the originally approved mission or to the cost of that mission.

Additions/deletions to the approved plan of NASA flights shall also be submitted to Headquarters for concurrence.

2.3 Implementation of the Approved Annual Balloon Flight Candidate Program - The Contractor is responsible for all phases of balloon flight operations. After receipt of the Approved Annual Balloon Flight Candidate Program, the contractor shall implement the program, and provide the operational and logistical support necessary to conduct the approved flight missions.

Operational implementation of the approved plan shall include procurement of flight support materials, logistics, pre-launch support, launch, tracking, command, data acquisition, and recovery services.

The contractor shall perform pre-flight, real time, and post-flight assessment of flight performance and environmental conditions, as required on a case-by-case basis.

2.4 Safety Implementation - Operational safety shall include conformance with and implementation of applicable comprehensive ground, flight, and payload safety plans and procedures.

The BPO Mission Manager (MM) shall be responsible for overseeing implementation and flow down of safety and mission assurance requirements throughout the conduct of the campaign.

The MM shall serve as the single point of contact between NASA and CSBF operations on behalf of the BPO Contracting Officer's Representative (COR), and provide mission safety and project oversight.

All flight operations shall fall within the provisions of NASA generated and approved safety plans and procedures. The contractor at CSBF is responsible for implementation of the applicable plans for balloon flights conducted under the Approved Annual Balloon Flight Candidate Program.

Additionally, the contractor has management responsibility for institutional health and safety at the NASA CSBF's permanent facilities in Palestine, TX, and Fort Sumner, NM, or at any semi-permanent or temporary remote facilities used for conducting NASA balloon operations. The safety programs shall be implemented in accordance with the prime support contract requirements.

2.4.1 Flight Safety - For operational flight safety, the BPO shall request a campaign or flight specific Balloon Risk Analysis and Flight Safety Plan as well as Mission Range Safety Officer support furnished by the NASA/WFF Safety Office.

The BPO shall operate in accordance with the RSM 2002, *Range Safety Manual for GSFC/WFF* and ensure implementation of all flight safety requirements.

Deviations or waivers to governing safety documentation requires approval from the WFF Safety Office Chief or designee and from the WFF Director of SSOPD or designee, as required.

2.4.2 Ground Safety - For operational ground safety, the BPO shall request a campaign or flight specific Ground Safety Plan and approval of Hazardous Procedures, as required.

The BPO shall request Operations Safety Specialist (OSS) support and/or ensure the prime contractor designates a specific OSS that operates in accordance with ground safety documentation.

The prime contractor shall document and submit system or payload hazards to the BPO.

Ground and flight system safety, risk identification and mitigation, and hazard analyses shall be documented in the NASA Ground Safety Risk Analysis Report for balloon systems.

The BPO shall be responsible for compliance with and ensuring the report remains current.

The prime contractor shall notify the BPO for system configuration changes that deter or conflict with the report.

Deviations or waivers to governing safety documentation require approval from the WFF Safety Office Chief or designee and from the WFF Director of SSOPD or designee, as required.

2.4.3 Institutional Safety and Health - The contractor is required to ensure compliance with the institutional health and safety procedures contained in the CSBF Safety and Health Plan, dated January 9, 2003.

2.5 Campaign Planning - The BPO, in accordance with 800-PG-7120.1.1, *Project Plans*, and 800-PG-1060.2.1, *Suborbital and Special Orbital Projects Directorate Reviews*, is responsible for providing campaign and mission specific documentation and reviews. The mission project plan (MPP) will cover operations, logistics, science requirements, schedules, responsibilities, readiness, and cost estimates required for each mission.

The Mission Readiness Review (MRR) shall be required for all major campaigns.

A Project Initiation Conference (PIC) shall be required for foreign LDB campaigns.

Ultra Long Duration Balloon (ULDB) missions shall be subject to a MRR and may be included in a PIC, dependent upon the campaign. Depending upon the nature and complexity of the mission, the BPO might not impose additional project planning or review requirements beyond those normally carried out for the conventional flight program.

2.5.1 PIC - The PIC helps to establish the key requirements and schedules, identify issues, and establish metrics for tracking progress. The PIC shall be convened on major remote campaigns and complex new experiments to initiate the planning process.

2.5.2 MRR - A MRR shall be called by the BPO for major campaigns, prior to deploying personnel and equipment, to assess the adequacy of the CSBF planning and the readiness of both the CSBF and science group(s) to meet the planned mission objectives.

The MRR team should establish a list of action items (as required).

After closure of action items, the review team shall make a recommendation concerning proceeding with the campaign.

MRR documentation, including disposition of action items, shall be provided to the BPO.

The Chief of the NASA BPO or designee shall make any final decisions as to continuance of the mission if any MRR action items are not adequately addressed.

2.6 Flight and Post-Flight Reporting and Documentation - During balloon campaigns, the contractor provides informal status and schedule reports. A formal post-flight summary report is required by the contract. Other associated reporting requirements are specified in the prime support contract.

2.7 Corrective and Preventive Action - Procedures for conducting investigations and initiating corrective actions as a result of accepted risks are established per 800-PG-8621.0.1, *Suborbital Anomaly Investigation and Reporting,* and discussed in 820-PG-8621.1.1, *Investigation and Reporting Procedures for Balloon Program Mishaps, Failures, and Anomalies.* Procedures for Mishap and Close Call investigations and initiating corrective actions are established in NPR 8621.1, *NASA Procedural Requirements for Mishap and Close Call Reporting Investigating, and Recordkeeping*.

Mishap preparedness and contingency planning shall be performed in accordance with GPR 8621.4, *GSFC Mishap Preparedness and Contingency Plan*, and through campaign/mission specific Balloon Program Mishap Preparedness and Contingency Plans.

3.0 MANAGEMENT OF NASA BALLOON PROGRAM DEVELOPMENT PROJECTS

Balloon Program development projects shall be managed in accordance with NPR 7120.8, *NASA Research and Technology Program and Project Management Requirements*, and 800-PG-7120.1.1.

3.1 Appoint Management Team - To initiate each project the Chief, BPO shall appoint the Management Team (MT), which shall designate the Project Manager (PM) at a minimum. Other Project roles, such as a Product Design Lead (PDL) or Systems Engineer may also be appointed.

Depending upon the scope of the project, and the approved approach, the MT shall consist of one or more people from inside or outside of the BPO.

3.2 Review Formulation Plan - The MT shall review the Formulation Plan for the project.

Deficiencies and/or errors in the Formulation Plan shall be identified and addressed in the Project Plan.

If a Formulation Plan has not been provided, the MT shall work with the customer to create a Formulation Plan in accordance with NPR 7120.8 for large missions and developmental projects as required. The Formulation Plan may be in the form of a preliminary Project Plan.

The Chief, BPO, shall determine feasibility and the requirement to have a formulation plan for mission and development projects already identified and funded by PPBE.

3.3 Develop Project (Implementation) Plan - The MT shall be responsible for generating the Project Plan. Depending upon the scope of the project, additional resources outside of the MT may be utilized to formulate the Project Plan.

This plan shall as a minimum include:

a. Design Requirements
b. Work Breakdown Structure
c. Management Plan which defines the organization and responsibilities of the project elements.
d. Budget (Must reference - but actual budget numbers may reside in separate document having tighter distribution than that intended for the Project Plan.)
e. Schedule.
f. Configuration Management.
g. Risk management.
h. Validation Plan.
i. Review Plan.

The Project Plan shall define which organizations will fulfill applicable elements such as design, purchasing, inspection and testing, product traceability, implementation, and the documentation used to perform these elements.

3.4 Project Plan Approval - The Project Plan shall be approved in accordance with 800-PG-7120.1.1.

3.5 Project Team - The Project Team will consist of those resources identified in the Project Plan. The MT shall be responsible for developing any requirement documents necessary to affect support from outside of the BPO. The requirements documents may consist of SOWs, Support Requests, or Requests for Proposal depending upon the applicable support initiation processes such as procurement processes or task order processes for new or existing contracts.

If the support request process generates proposals in response to the requirements documents, the MT shall review those proposals.

If a proposal for support is unacceptable, the requirements shall be reissued or other action taken to get the required support.

The MT shall modify the Project Plan to reflect a change in requirements or methods in accordance with 820-PG-1410.2.1, *BPO Configuration Management (CM) Procedure*.

3.6 Implementation - The Project Team shall be responsible for implementing the Project Plan.

If the project is sufficiently complex, the Project Plan shall identify systems or sub-systems that should have a PDL assigned to them.

PDLs shall be responsible for meeting the requirements of GPR 8700.1, *Design Planning and Interface Management*, GPR 8700.2, *Design Development* and GPR 8700.3, *Design Validation* and the Project Plan for their systems. Individual systems or sub-systems may have additional requirements or derived requirements, as well as specialized procedures for design, testing, and operation that must be documented.

If not already documented elsewhere, or covered by other Agency, Center, Directorate, and/or BPO directives, these requirements and procedures shall become addenda to the Project Plan. As the project progresses, additional support may become necessary, or support requirements may become further defined (such as, final test flight requirements).

The MT shall be responsible for documenting these requirements and modifying plans (in accordance with applicable procedures and guidelines) as appropriate.

If the end product being developed by the Project Team is an operational system which requires operational support from the CSBF, then the MT shall be responsible for development of the operational support requirements and submitting them to the COR of the current NASA Balloon Operations Contract and in accordance with the contract.

3.7 Project Completion - The final step in the Project is delivering the product to the user(s). In some cases, this transition may be a product developed for the Balloon Program that is to be handed over to the operational contractor for final operational support (use). In other cases, this transition may occur after the flight has been completed and post flight reviews have been closed out. Each Project Plan shall clearly delineate where this transition is to occur.

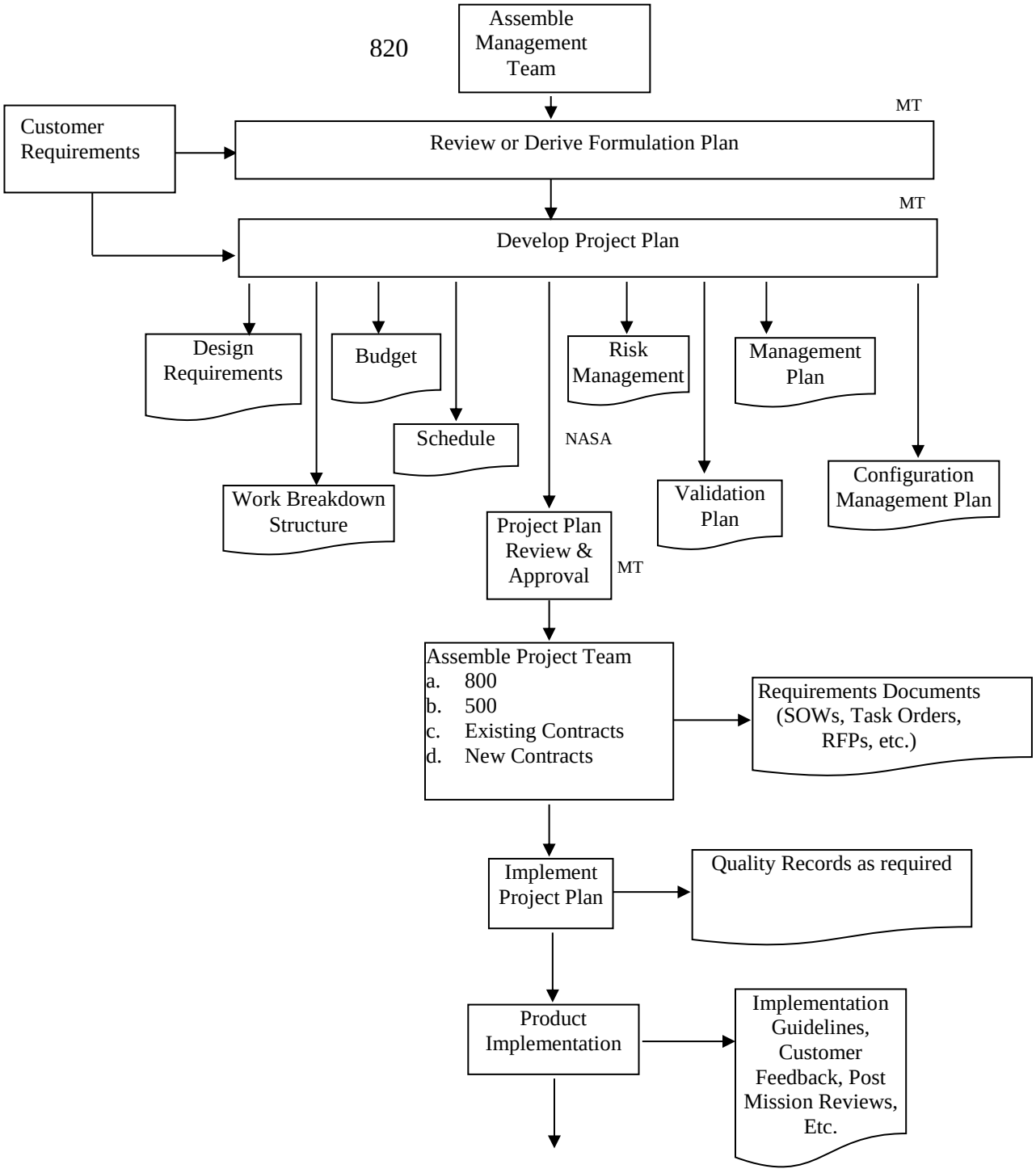
Each Project Team shall generate implementation guidelines for the product. At the completion of design validation, product implementation can occur.

The MT shall be responsible for ensuring that a smooth transition occurs between design/development activities and routine usage or flight mission activities.

Proper implementation guidelines are critical to this transition and as a minimum shall include:
a. Operational Procedures
b. Operator/User Training
c. Product replication guidelines (if applicable)
d. Safety requirements

At the completion of product implementation and concurrence by the Chief, BPO, the Project is complete. Alternatively, any project may be declared as complete by the Chief, BPO after review and cancellation based upon technical inadequacy/difficulty, cost, schedule, or change in priorities.

Management of Balloon Program Development Projects Flowchart



Appendix A – Definitions

A.1 Campaign – One or more balloon flights launched from a specified location in a continuous specified period. A campaign may include flights for multiple researchers and with multiple scientific objectives.

A.2 Contract – the implementation of NASA's Balloon Flight Program, Operation and Maintenance of the Columbia Scientific Balloon Facilities (CSBF) in Palestine, Texas, and Fort Sumner, New Mexico, and Engineering Support for NASA's Balloon Program.

A.3 Contractor – The NASA Balloon Program Prime Support Contractor performing services under the contract.

A.4 Conventional Flight Program – The NASA flight program for shorter duration (typically 4 hours to ~30 hours duration) balloon flights operated by the CSBF. Such flights are normally supported via line-of-sight telemetry and are regional in coverage.

A.5 Customer – Any organization or person who receives a product or service from GSFC; for the purposes of this PG the customer may be internal (e.g., the ULDB project) or external to GSFC.

A.6 Developmental Project – Any development or significant endeavor that is beyond the normal day-to-day activities associated with the management and operation of the Conventional or Long Duration Balloon flight program, as specified by the Chief, Balloon Program Office. Projects exist for a finite period with a defined end product.

A.7 Long Duration Balloon (LDB) Flight Program – The NASA flight program for longer duration flights operated by the CSBF. Typical LDB flight durations are 7 to 21 days. Such flights are normally supported by both line-of-sight and over-the-horizon telemetry support systems and are global in coverage.

A.8 Mission Manager – Serves as the single point of contact between NASA and CSBF operations on behalf of the BPO Contracting Officer's Representative and provides mission safety and project oversight in the field.

A.9 Product Design Lead (PDL) - The manager or leader with overall responsibility for managing the design activity, managing the technical and organizational interfaces identified during design planning, and where required, forming and leading the Product Design Team. This term refers to flight project managers, instrument managers, subsystem technical managers, integrated product development team leaders, lead engineers, etc.

A.10 Program – An activity within a Directorate having defined goals, objects, requirements, funding, and consisting of one or more projects.

A.11 Program Planning Budget and Execution (PPBE) – A document prepared by a Center in response to Headquarters directed budget guidelines. It is a compilation of the requested budget by program or project, needed to execute the Headquarters direction.

A.12 Project Manager (PM) - The manager or leader with overall responsibility for the project. The PM leads the Management Team (MT) in planning and conducting the project.

A.13 Ultra Long Duration Balloon (ULDB) Flight Program – The NASA flight program for extended duration missions lasting up to 100 days. Such flights are normally supported by both line-of-sight and over-the-horizon telemetry support systems and are global in coverage. ULDB missions are longer than LDB missions. ULDB involves a higher degree of integration between the science instrument and the support systems; therefore, requires a higher degree of project management oversight.

Appendix B – Acronyms

BPO	Balloon Program Office
CM	Configuration Management
CSBF	Columbia Scientific Balloon Facility
COR	Contracting Officer's Representative
GSFC	Goddard Space Flight Center
LDB	Long Duration Balloon
MOA/MOU	Memorandum of Agreement/Memorandum of Understanding
MM	Mission Manager
MPP	Mission Project Plan
MRR	Mission Readiness Review
MT	Management Team
NSBF	National Scientific Balloon Facility
NSF	National Science Foundation
OSS	Operations Safety Specialist
PDL	Product Design Lead
PIC	Project Initiation Conference
PM	Project Manager
PPBE	Program Planning Budget and Execution
RPMD	Research Program Management Division
SMD	Science Mission Directorate
SOW	Statement of Work
SSOPD	Suborbital and Special Orbital Projects Directorate
SITREPS	Situational Reports
ULDB	Ultra Long Duration Balloon
WFF	Wallops Flight Facility

CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	February 16, 2010	Initial Release (This directive combines the 7120 series of Code 820's PGs into one directive.)
A	April 28, 2014	Modified to clarify requirements in accordance with NASA, Center, and Directorate procedures and guidelines Administrative changes POP replaced with PPBE Annual Balloon Flight Operations Project Plan renamed the Annual Balloon Flight Candidate Program Addition of Mission Manager
	April 25, 2019	Administratively extended for 1 year.